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Applied Research – An Everyday Occurrence

by Rene Herron

In the previous story in this edition of ARFF News, Chairman Kann has written about the ARFF Working Group's (ARFFWG) plan to work jointly with the Federal Aviation Administration (FAA) on applied research projects that will address each of the four National Transportation Safety Board's (NTSB) recommendations from the report on the Asiana Flight 214 crash at San Francisco International Airport. When all four projects are finalized and approved by the ARFFWG Board of Directors (BOD), they will be compiled into a large overall report that will be provided to the NTSB. Throughout Chairman Kann's discussion of the ARFFWG approved plan, the term "applied research project" was used various times. What exactly is applied research and what does it entail?

Applied research is the most effective method to address the issues presented by the NTSB to the ARFFWG. The BOD believes these recommendations present an opportunity for the ARFFWG to make a positive impact within the field. In addition, it is a chance for the ARFFWG to demonstrate its value, knowledge and skills in its role as an organization that represents the entire ARFF industry. In conducting four distinct research projects, the ARFFWG offers its expertise and perspective to important recommendations by collecting data to support the written responses.

The best type of research that seeks to resolve real-world and hands-on problems experienced in a specific area or field is applied research. With this method the basis is to identify a specific issue, gain knowledge about it, find shortcomings within the existing body of knowledge, create research questions and provide answers with innovative and alternative avenues to solve the problem. In this case, the NTSB has already posed the questions; therefore, it is ARFFWG's main objective to ascertain, analyze, and formulate answers from our resources – theories, policies, regulations, industry standards, documents, and knowledge derived from years of experience. Basically, applied research is an academic term that encompasses what many already do in everyday jobs: identify, examine and address problems in order to allow organizations to run more smoothly.

An example of an already in motion applied research project is the National Fire Academy's (NFA) ARFF Professional Development group. Since June 2014, individuals from within the ARFF, FAA, and higher educational fields have been examining what levels of ARFF training and possible higher educational degrees all ARFF and mutual aid personnel should possess. The committee, co-chaired by ARFFWG's BOD members Jason Graber and Elizabeth Hendel, is examining all educational and training facets related to ARFF with the usage of sub-groups: structural ARFF training, advanced ARFF training, command and control training, Executive Fire Officer training and possible suggested requirements for higher institutional degrees..

Subgroup membership is voluntary and based on knowledge and skills of the members within the overall group. Currently, many of the groups are still gathering and analyzing data. Once each task group's final deliverable is completed, that information is to be compiled into an overall report for the overarching NFA Professional Development Oversight committee. While the work on this committee began before the release of the NTSB recommendations, the information is extremely relevant in regards to the ARFFWG response to NTSB Recommendation A-14-61:

Develop and distribute, in conjunction with the Federal Aviation Administration, guidance and training materials to ensure that all airport and mutual aid firefighting offers placed in command at the scene of an aircraft accident have at least a minimum level of aircraft rescue and firefighting training. (C. Hart, personal correspondence, July 16 2014)

The structure of this committee is exactly the structure of the NTSB recommendation task groups that the ARFFWG is currently creating. The research will be similar as well, for this type finds the most effective methods to address an issue. It is firmly placed within scientific methods, because the group follows the steps: gathering information, studying shortcomings within the existing body of knowledge and providing innovative alternative avenues to solve the problem.

Chairman Kann also mentioned that the finalized information will be submitted for presentations at aviation and firefighting conferences and publications in trade and academic journals. This is the final requirement of any research. It is at this juncture that the research data officially contributes to the industry and existing body of literature. Currently, there is not much written in journals, other periodicals or books about ARFF; therefore, the published response reports can assist others within the emergency services field and provide additional focus on the ARFF industry.

The fact that the NTSB put forth recommendations addressed to the ARFFWG demonstrates that the United States Federal government recognizes the ARFFWG as an organization of experts within their field. This is a critical opportunity for both the firefighting and aeronautical industries to come together to create knowledgeable and research-backed responses to NTSB's recommendations.

Currently, the call is out for volunteers for the task groups. Remember, as Chairman Kann has indicated, a member of the ARFFWG and the FAA will jointly chair each group. Additionally, to assist with research structure individuals attached to academic institutions will be placed on each task group. These persons will assist with the structure of the finalized report and ensure the validity, reliability and objectivity of the data.

It is important to stress that there will be limitations to some of these projects. Those are always noted in the

research report and should never be seen as a setback. It is not possible for any research query to be perfect and find the exact answers due to the constant development of new information and data. However, it is the development and refinement of the issues that provides the most gratification to the researchers.

It is that sense of dedication to ARFF that should lead you to volunteer to be part of one of the recommendation task groups. To submit your name, simply go to the Hot Topics area of the ARFFWG website, click on the NTSB area and then click on the "Join Task Group" link. You need to provide basic information, including your resume. You can apply for as many committees as you like, but you need to submit a new request each time. Your resume is reviewed by the BOD to verify your knowledge, skills and abilities needed for the group, but do not discount yourself merely because you do not believe yourself to be qual-

ified. The BOD wants a diverse membership for all committees and it is better to apply than not to be an active part of this historic chapter of ARFF.

After all, applied research is really an everyday occurrence— use your knowledge and desire to fix things by being part of the ARFFWG NTSB research project.

About the Author: Dr. Rene Herron is the Associate Chair for the Emergency Services program and an Assistant Professor at Embry-Riddle Aeronautical University. Her research interests are primarily within the ARFF realm, but she is also published in regards to academic online technology within higher education. Rene has been in academe for almost 20 years and held various positions, including Dean of Online Instruction.

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